Claims

1. A method for providing call waiting service for a computer connected to an Internet Service Provider (ISP)
5   without dropping the connection with the ISP, the method comprising:

initiating an internet call waiting connection between the computer and an ISP, the internet call waiting connection traversing a switch;

10   sending the directory number and a dynamic IP address of the computer to an Internet Call Waiting/Holding (ICW/H) server;

storing the directory number and the dynamic IP address of the computer at the ICW/H server; and

15   sending a message from the ICW/H server to the switch indicating that the call waiting service is active.

2. A method for providing call waiting service in accordance with claim 1, the method further comprising the steps of:

  receiving an incoming call request intended for the

5 computer at the switch while the internet call waiting connection is active;

  routing the incoming call request from the switch to the ICW/H server; and

  alerting the computer of the incoming call request

10 without dropping the internet call waiting connection.

3. A method for providing call waiting service in accordance with claim 2, wherein the step of alerting the computer of the incoming call request is performed by the

15 ICW/H server via the internet call waiting connection.

4. A method for providing call waiting service in accordance with claim 2, wherein step of alerting the computer of the incoming call comprises presenting the

20 computer with a choice as to whether to accept the incoming call request.

5. A method for providing call waiting service in accordance with claim 4, further comprising step of

25 maintaining the internet call waiting connection if the computer accepts the incoming call request.

6. A method for providing call waiting service in accordance with claim 5, further comprising the step of

30 switching back to the internet call waiting connection after the incoming call releases.

7. A method for providing call waiting service in
accordance with claim 4, the method further comprising
the step of dropping the internet call waiting
connection.

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8. A method for providing call waiting service in
accordance with claim 4, the method further comprising
the step of rejecting the incoming call request.

10 9. A method for providing call waiting service in
accordance with claim 8, wherein the step of rejecting
the incoming call request comprises playing a prerecorded
message.

15 10. A method for providing call waiting service in
accordance with claim 8, wherein the step of rejecting
the incoming call request comprises sending a message to
the phone associated with the incoming call request.

20 11. A method for providing call waiting service in
accordance with claim 10, wherein the message is a
packet-based message.

12. A method for providing call waiting service in
25 accordance with claim 10, further comprising the step of
converting the message utilizing a test-to-speech
converter.

13. A method for providing call waiting service in
30 accordance with claim 1, wherein the step of initiating
an internet call waiting connection between the computer
and an ISP comprises dialing an access code to enable the
internet call waiting service.

14.   An i⬤rnet call waiting system ⬤prising:

a switch for receiving a request for an internet call waiting connection from a computer;

an Internet Service Provider (ISP) coupled to the
5   switch and providing access to the Internet, the ISP effective in assigning a dynamic Internet Protocol (IP) address to the computer for the internet call waiting connection to the internet; and

an Internet Call Waiting/Holding (ICW/H) server
10 coupled to the switch and the ISP, the ICW/H server effective in receiving and storing the directory number and the dynamic IP address of the computer, the ICW/H server also effective in sending a message to the switch indicating that the call waiting service is active.

15. An internet call waiting system in accordance with claim 14, wherein the switch is effective in performing internet call waiting registration.

5   16. An internet call waiting system in accordance with claim 15, wherein the switch is effective in completing the internet call waiting registration based upon receipt of a confirmation from the ICW/H server.

10   17. An internet call waiting system in accordance with claim 14, wherein the switch is effective in receiving an incoming call request intended for the computer while the internet call waiting connection is active.

15   18. An internet call waiting system in accordance with claim 17, wherein the switch is effective in routing the incoming call request to the ICW/H server.

19. An internet call waiting system in accordance with
20   claim 18, wherein the switch is effective in releasing the internet call waiting connection and bridging a connection between a computer and an incoming call.

20. An internet call waiting system in accordance with
25   claim 18, wherein the switch is effective in maintaining the internet call waiting connection and bridging a connection between a computer and an incoming call.

21. An internet call waiting system in accordance with
30   claim 20, wherein the switch is effective in releasing the connection between the computer and the incoming call and reactivating the internet call waiting connection between the computer and the ISP.

22.   An i●rnet call waiting system ●accordance with claim 21, wherein the switch is effective in deactivating the internet call waiting connection.

5   23.   An internet call waiting system in accordance with claim 18, wherein the ICW/H server is effective in receiving a message including the directory number and dynamic IP address of the computer to the ISP.

10   24.   An internet call waiting system in accordance with claim 23, wherein the ICW/H server is effective in alerting the computer of the incoming call request without dropping the internet call waiting connection.

15   25.   An internet call waiting system in accordance with claim 23, wherein the ICW/H server is effective in deactivating the internet call waiting connection.

26.   An I⬤rnet Call Waiting/Holding ⬤CW/H) server comprising:

a packet port for receiving a directory number and a dynamic IP address of a computer, the directory number

5   and the dynamic IP address associated with a computer for an internet call waiting connection;

memory for storing the directory number and the dynamic IP address of the computer;

a processor; and

10   a circuit port for sending a message to a switch indicating that call waiting service is active.

27.   An Internet Call Waiting/Holding (ICW/H) server in accordance with claim 26, wherein the circuit port is effective in receiving an incoming call request from the switch.

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28.   An Internet Call Waiting/Holding (ICW/H) server in accordance with claim 27, wherein the processor is effective in sending an alerting message including the directory number of an incoming caller to the computer.

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29.   An Internet Call Waiting/Holding (ICW/H) server in accordance with claim 27, wherein the processor is effective in sending a message via the circuit port to the switch for instructing the switch to perform call

15   bridging functionality.